Energy Spectra of a Magnetic Quantum Ring with an Off-Center Impurity

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Abstract: In this paper, we calculate the low-lying spectra of a single-electron magnetic quantum ring with an off-center Coulomb impurity, where the magnetic field is zero within the ring and constant elsewhere. The impurity, either an acceptor or a donor, is located at a distance d as measured from the plane of the ring along the vertical z direction. The magnetic moments are found in order to get visible discontinuities at the points of the ground-state orbital angular momentum L transitions induced by magnetic fields.

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